

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Accompanying Divisional Application under 37 CFR 1.53:

Prior Application: APPLICANTS: K. Takahashi et al  
Serial No. 09/292,990  
Filed: April 16, 1999

Group Art: 1743  
Examiner: Patricia Kathryn Bex  
For: SAMPLE RACK HANDLING SYSTEM

## PRELIMINARY AMENDMENT

Assistant Commissioner of Patents  
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above application as follows.

IN THE SPECIFICATION

Please amend the specification as set forth below:

Page 7, second full paragraph, lines 8 to 11, the marked up paragraph is as follows:

Initially, the total construction of an example of a layout in a sample rack handling system to which the present invention is applied will be conceptually described below, referring to FIG. 1.

Pages 7 and 8, the paragraph bridging these pages from page 7, line 12 to page 8, line 14, replace the marked up paragraph is as follows:

The sample rack handling system of FIG. 1 comprises a rack transportation system 1 having a plurality of rack transportation line units 1a to 1i and a plurality of treatment units 2a, 2b, 3 to 9. Each of the line units 1a to 1i composes a rack transportation assembly to be described later. Each of the treatment units composes a treatment unit structure. Each of the treatment units is connected to the corresponding rack transportation assembly detachably, that is, separably from each other. A rack loader unit 50 is arranged in the start terminal side of the rack transportation system 1, and a rack storage unit 60 is arranged in the end terminal side of the rack transportation system 1. Each of buffer units 2a, 2b and the treatment units 3 to 9 respectively contains a unit control portion for controlling operation of its own unit, and has a function to transmit operation information of the its own unit to each of the partial line units 1a to 1i pairing with and corresponding to each of the treatment units. The centrifuge unit 3, the on-line aliquoter unit 5 and the analyzer unit 9 out of the plurality of treatment units 3 to 9 arranged along the rack

transportation system 1 are units for performing physical treatments to a sample held in a sample rack. In addition, the analyzer unit 9 also performs chemical treatment on the extracted sample. On the other hand, the destoppler unit 4, the bar code labeler unit 6, the restoppler unit 7 and the sorting unit 8 are units for performing some operation to a container containing a sample. Here, these operations are generically called sample treatments. An off-line aliquoter unit may be arranged instead of the analyzer unit.

Pages 16 and 17, the paragraph bridging these pages from page 16, line 24 to page 17, line 13, replace the marked up paragraph is as follows:

A plurality of casters 46, 47 and a plurality of adjusters 48, 49 are attached onto the bottom surface of the projecting member 45. It is preferable that both the number of the casters and the number of the adjusters are four or more. When the rack transportation assembly 30 is moved on a floor of an inspection room, rollers of the casters 46, 47 rotate in contact with the floor to make the movement of the rack transportation assembly 30 smooth. When the rack transportation assembly 30 is moved, the adjusters 48, 49 are drawn back toward the projecting member 45 side so that the

lower ends of the adjusters are positioned at a level higher than that of the lower ends of the casters 46, 47. The adjusters 48, 49 are used for adjusting height when the rack transportation assembly 30 is fixed on the floor after the set position is determined. The adjusters 48, 49 can be extended so that the lower ends of the casters 46, 47 are out of contact with the floor.

IN THE CLAIMS

Please cancel claims 3 and 6 and amend claims 1, 4 and 5 as set forth below:

1. (Amended) A sample rack handling system comprising a rack transportation assembly having a passage capable of transporting a sample rack holding a sample, the rack transportation assembly being supported on a floor surface; and a treatment unit structure having a rack transferring area for sending out and receiving the sample rack to and from said passage, the treatment unit structure being detachably combined with said rack transportation assembly so that the sample rack is transferred from one of said rack transferring area and said passage to the other of said rack transferring area and said passage, which further comprises:

a projecting member forced on said rack transportation assembly below said passage, the projecting member projecting forward from said rack transportation assembly;

a first reference surface facing upwardly formed on an upper surface of said projecting member;

a plurality of adjusters for adjusting the height of said rack transportation assembly, the adjusters being attached at a position lower than said projecting member on said rack transportation assembly;

a second reference surface mounted on said treatment unit structure and facing downwardly and located at a position near a back surface of said treatment unit structure which is lower than said rack transferring area of said treatment unit structure, said second reference surface being maintained in contact with said first reference surface when said treatment unit structure is combined with said rack transportation assembly; and

casters for contacting said floor surface when said treatment unit structure is moved on the floor surface, said casters being arranged at a position which is lower than said second reference surface on said treatment unit structure, said casters each having a height adjuster for adjusting a

height of said treatment unit structure so that said second reference surface is brought into and maintained in contact with said first reference surface.

4. (Amended) A sample rack handling system according to claim 1, wherein a plurality of treatment unit structures are combined with said rack transportation assembly.

5. (Amended) A sample rack handling system according to claim 1, wherein said rack transportation assembly includes a platform having said projecting member and said plurality of adjusters; and a rack transportation mechanism having said passage, the rack transportation mechanism being attached to said platform.

REMARKS

In the Office Action mailed March 16, 2001 in the parent Application, the Examiner finally rejected claims 1, 2, 4 and 5 and stated that claims 3 and 6 would be allowable if rewritten in independent form. Accordingly, claims 3 and 6 were rewritten in independent form in the parent application and claims 1, 2, 4 and 5 and are the subject of this divisional application. Reference will be made in this

Preliminary Amendment to the Examiner's positions set forth in the Final Rejection in the parent application.

**CLAIM REJECTIONS UNDER 35 U.S.C. § 112**

Claim 1 was rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which allegedly was not described in the specification with regard to the unit structure being detachably combined with the rack transportation assembly.

The Examiners' attention is respectfully directed to the specification at page 7, lines 17-20 wherein it is stated as follows:

"Each of the treatment units composes a treatment unit structure. Each of the treatment units is connected to the corresponding rack transportation assembly detachably, that is, separably from each other."

It is believed clear that the above part of the specification supports the treatment unit structure being detachably combined with the rack transportation assembly.

Claims 1-6 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite in that phrase "the other thereof" in claim 1, line 11 was vague and indefinite as to what "the other" refers to.

By this amendment, claim 1 has been amended in line 11 to delete the word "thereof" and insert --of said rack transferring area and said passage--. Accordingly, claim 1 in lines 7-11 has been amended to read "the treatment unit structure being detachably combined with said rack transportation assembly so that the sample rack is transferred from one of said rack transferring area and said passage to the other of said rack transferring area and said passage.

As is now readily apparent from claim 1 as amended, the word "one" means one of the rack transferring area or the passage and "the other" now specifically is described as referring to the other of the rack transferring area or the passage.

Finally, claim 1 was objected to for use of the word "forced" in line 12 of claim 1. The word forced was a typographical error made when the claim was amended in the amendment filed December 18, 2000. In claim 1 as originally filed, the proper word "formed" was used.

It is submitted that claim 1, as amended, meets all the requirements of 35 U.S.C. § 112.

**CLAIM REJECTIONS UNDER 35 U.S.C. §102**

Claims 1-2 and 4-5 were again rejected under 35 U.S.C. § 102(e) as being anticipated by Ohishi et al (U.S. Patent No. 6,019,945). It was the Examiners' position that the Ohishi et al structure showed treatment units in a rack transportation assembly attachable via a forward projecting member 84 formed in the rack transportation assembly below the passage, with the projecting member 84 having a first reference surface facing upwardly formed on the upper surface of the projecting member 84 as shown Fig. 5 of the patent. The Examiner further was of the view that a second reference surface 87-88 was provided on the treatment unit structure facing downwardly and located at a position near a back surface of the treatment unit and lower than the rack transferring area of the treatment structure. In so holding, the Examiner specifically noted that projecting member 84 inherently comprises an upper surface and the treatment units comprise an oval hole with a downward facing surface 88 so that the projection number 84 can engage the oval hole.

For the reasons set forth hereafter, it is submitted that claims 1, 2, 4 and 5, as amended, are patentable over the prior art.

According to claim 1 as amended , a first reference surface (55) facing upwardly is formed on an upper surface of a projecting number (45) mounted on the rack transportation assembly (30) and a second reference surface (63) facing downwardly is mounted on the treatment unit structure (70). The first reference surface and the second reference surface are maintained in contact with each other in a state where the rack transportation assembly and the treatment unit structure are combined with each other. Such a state can be easily accomplished by adjusting the height of the treatment unit structure by means of a height adjuster (67, 68) which the casters each have. Therefore, the position in height of the treatment unit structure relative to the rack transportation assembly is automatically determined substantially only by fixedly contacting the second reference surface with the first reference surface and maintaining the two surfaces in contact.

By contrast, in Oishi et al, the upper and lower surfaces of oval hole 88 are essentially prevented from being contacted with cylindrical projecting pin 84 because the oval hole merely functions to absorb any variation in heights of the main conveyer line and the analysis unit as described at column 13, lines 15-17. Any contacting, if at all, would only be momentary and the pin 84 and the upper surface of oval hole

88 would not be maintained in contact. In other words, it is apparent that Oishi et al positively teaches away from the claimed invention. Therefore, the claimed invention is not anticipated nor rendered obvious to a person skilled in the art based on Oishi et al.

Early and favorable prosecution on the merits is respectfully requested.

Respectfully submitted,

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Date: August 15, 2001

**MARKED UP VERSION OF REPLACED  
PARAGRAPHS OF THE SPECIFICATION**

Page 7, second full paragraph, lines 8 to 11, the marked up paragraph is as follows:

Initially, the total construction of an example of a layout in a sample rack handling system to which the present invention is applied will be conceptually described below, referring to FIG. 1.

Pages 7 and 8, the paragraph bridging these pages from page 7, line 12 to page 8, line 14, replace the marked up paragraph is as follows:

The sample rack handling system of FIG. 1 comprises a rack transportation system 1 having a plurality of rack transportation line units 1a to 1i and a plurality of treatment units 2a, 2b, 3 to 9. Each of the line units 1a to 1i composes a rack transportation assembly to be described later. Each of the treatment units composes a treatment unit structure. Each of the treatment units is connected to the corresponding rack transportation assembly detachably, that is, separably from each other. A rack loader unit 50 is arranged in the start terminal side of the rack transportation system 1, and a rack storage unit 60 is arranged in the end

terminal side of the rack transportation system 1. Each of buffer units [1] 2a, 2b and the treatment units 3 to 9 respectively contains a unit control portion for controlling operation of its own unit, and has a function to transmit operation information of the its own unit to each of the partial line units 1a to 1i [paring] pairing [in] with and corresponding to each of the treatment units. The centrifuge unit 3, the on-line aliquoter unit 5 and the analyzer unit 9 out of the plurality of treatment units 3 to 9 arranged along the rack transportation system 1 are units for performing physical treatments to a sample held in a sample rack. In addition, the analyzer unit 9 also performs chemical treatment [to] on the extracted sample. On the other hand, the destoppler unit 4, the bar code labeler unit 6, the restoppler unit 7 and the sorting unit 8 are units for performing some operation to a container containing a sample. Here, these operations are generically called [as] sample treatments. An off-line aliquoter unit may be arranged instead of the analyzer unit.

Pages 16 and 17, the paragraph bridging these pages from page 16, line 24 to page 17, line 13, replace the marked up paragraph is as follows:

A plurality of casters 46, 47 and a plurality of adjusters 48, 49 are attached onto the bottom surface of the projecting member 45. It is preferable that both [of] the number of the casters and the number of the adjusters are four or more. When the rack transportation assembly 30 is moved on a floor of an inspection room, rollers of the casters 46, 47 rotate in contact [to] with the floor to make the movement of the rack transportation assembly 30 smooth. When the rack transportation assembly 30 is moved, the adjusters 48, 49 are drawn back toward the projecting member 45 side so that the lower ends of the adjusters are positioned at a level higher than that of the lower ends of the casters 46, 47. The adjusters 48, 49 are used for adjusting height when the rack transportation assembly 30 is fixed on the floor after the set position is determined. [Since the] The adjusters 48, 49 can be extended so that the lower ends of the casters 46, 47 [detached from] are out of contact with the floor.

**MARKED UP VERSION OF REWRITTEN CLAIMS**

1. (Amended) A sample rack handling system comprising a rack transportation assembly having a passage capable of transporting a sample rack holding a sample, the rack transportation assembly being [to be installed] supported on a

floor surface; and a treatment unit structure having a rack transferring area for sending out and receiving the sample rack to and from said passage, the treatment unit structure [being capable of] being detachably combined with said rack transportation assembly so that the sample rack is transferred from one of said rack transferring area and said passage to the other of said rack transferring area and said passage, which further comprises:

a projecting member forced [in] on said rack transportation assembly below said passage, the projecting member projecting forward from said rack transportation assembly;

a first reference surface facing upwardly formed on an upper surface of said projecting member;

a plurality of adjusters for adjusting the height of said rack transportation assembly, the adjusters being attached at a position lower than said projecting member [in] on said rack transportation assembly;

a second reference surface mounted on said treatment unit structure and facing downwardly [formed] and located at a position near a back surface of said treatment unit structure which is lower than said rack transferring area of said treatment unit structure, said second reference surface being

maintained in contact with said first reference surface when  
said treatment unit structure is combined with said rack  
transportation assembly; and

casters [to be used so as to contact to] for  
contacting said floor surface when said treatment unit  
structure is moved on the floor surface, [the] said casters  
being arranged at a position which is lower than said second  
reference surface [in] on said treatment unit structure[; and]  
, said casters each having a height adjuster for adjusting a  
height of said treatment unit structure so that said second  
reference surface is brought into and maintained in contact  
with said first reference surface.

[a height adjuster capable of adjusting a height  
from the floor surface in the front side of said treatment  
unit structure after said second reference surface is brought  
in contact with said first reference surface.]

4. (Amended) A sample rack handling system according to  
claim 1, wherein a plurality of treatment unit structures are  
combined with [one] said rack transportation assembly.

5. (Amended) A sample rack handling system according to  
claim 1, wherein said rack transportation assembly includes a

platform having said projecting member and said plurality of adjusters; and a rack transportation mechanism having said passage, the rack transportation mechanism being attached [onto] to said platform.

FIG.7A

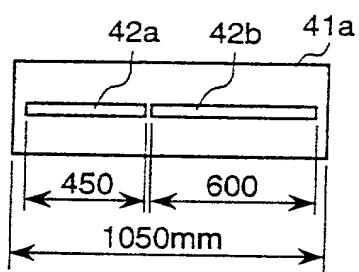


FIG.7B

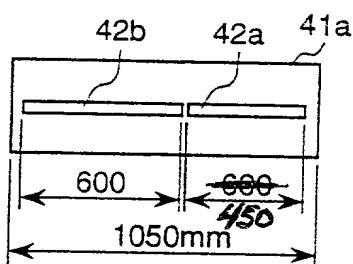


FIG.7C

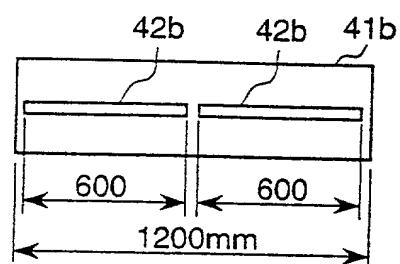


FIG.7D

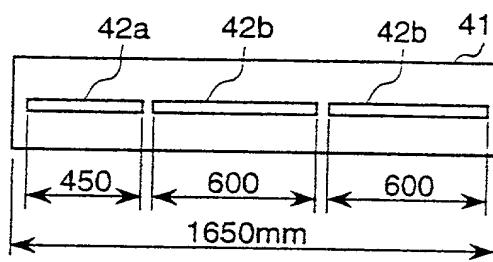


FIG.7E

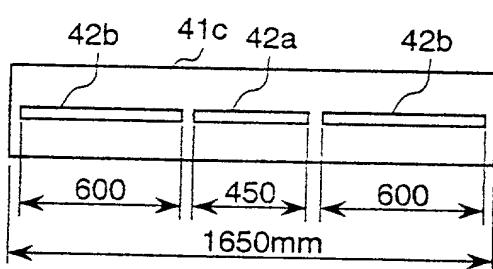


FIG.7F

